

509, 233

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization  
International Bureau



24 SEP 2004

(43) International Publication Date  
9 October 2003 (09.10.2003)

PCT

(10) International Publication Number  
**WO 03/083848 A1**

- (51) International Patent Classification<sup>7</sup>: **G11B 7/013**
- (21) International Application Number: **PCT/IB03/00879**
- (22) International Filing Date: **5 March 2003 (05.03.2003)**
- (25) Filing Language: **English**
- (26) Publication Language: **English**
- (30) Priority Data:  
02076255.5      29 March 2002 (29.03.2002)      EP
- (71) Applicant (*for all designated States except US*): **KONINKLIJKE PHILIPS ELECTRONICS N.V. [NL/NL]**; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

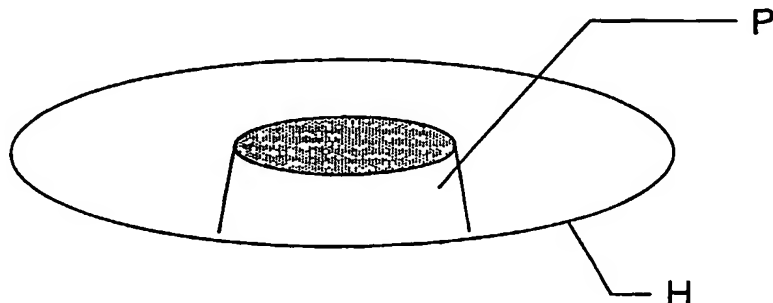
- (72) Inventors; and
- (75) Inventors/Applicants (*for US only*): **VAN SOMEREN, Bob [NL/NL]**; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). **COENE, Willem, M., J., M. [BE/NL]**; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).
- (74) Agent: **DEGUELLE, Wilhelmus, H., G.**; Internationaal Octrooibureau B.V., Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

**Published:**

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: **WRITING SCHEME FOR AN OPTICAL RECORDING MEDIUM**



(57) Abstract: The present invention relates to a writing scheme for writing an information to an optical recording medium by forming mark areas, e.g. pit areas, corresponding to a predetermined state of said information on a recording surface of said optical recording medium. The writing scheme is adapted to modulate the shape of said mark areas in a predetermined manner so as to obtain incomplete mark areas which do not fully cover the size which is allocated to the channel bit to be written. Thereby, the problem of folding can be prevented or alleviated during the writing

or mastering process due to the fact that the incomplete mark areas, e.g. pit effects, do not form large mirror surfaces when combined in clusters of adjacent pits. The incomplete mark areas may be obtained by modulating their shape in any manner suitable to reduce the reflection surface and/or to increase diffraction. Additionally, a multi-level modulation or a binary modulation may be achieved by controlling the shape or number of the incomplete mark areas, respectively, in accordance with the level of a multi-level coded information.

WO 03/083848 A1